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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/734,005

12/10/2003

William G. Reeves

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9405

23556

7590

10/18/2007

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EXAMINER

TSOY, ELENA

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/734,005	Applicant(s) REEVES ET AL.	
	Examiner Elena Tsoy	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 1-11, 13 and 19-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12 and 14-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>3/8/04, 3/8/04, 1/27/05</u> | 6) <input type="checkbox"/> Other: _____ |

Election/Restrictions

1. Applicant's election without traverse of Group III, species of claims 16-17 in the reply filed on October 3, 2007 is acknowledged.

Claims 1-22 are pending in the application. Claims 1-11, 13, 19-22 are withdrawn from consideration as directed to a non-elected invention and/or species.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 12, 14, and 16-17 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Tsubakimoto et al (US 4734478).

Tsubakimoto et al disclose a method of preparing a water-absorbing agent composed of a water-absorbing resin powder having the molecular chains near its surface being *crosslinked* (claimed surface crosslinked superabsorbent-containing composite), the method comprising coating a water-absorbing resin powder by *spraying* (claimed at least one particle of a coating

Art Unit: 1792

material) a mixture of polyhydric alcohol (claimed hydrophilic association agent), and hydrophilic organic solvent with water (claimed hydrophilic association agent) in a *fluidizing*-type mixer or a gas-current type mixer (See column 4, lines 50-63) to react the water-absorbing resin powder with the polyhydric alcohol (claimed crosslinking reagent) (See Abstract). The gas current-type mixer denotes a device for mixing the powder by **fluidizing** it with a gas such as air (See column 7, lines 14-16).

As to claims 16-17, the mixture may further comprise another compound such as water-soluble polymers (See column 6, lines 6-10), e.g. carboxymethyl *cellulose*, hydroxyethyl *cellulose* (See column 6, lines 28-29). The use of these water-soluble polymers can desirably increase the mechanical strength of the resulting granular product and makes it easy to handle the water-absorbing agent (See column 6, lines 30-33).

5. Claims 12 and 16 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Chambers et al (US 5597873).

Chambers et al disclose a method of preparing a surface crosslinked superabsorbent-containing composition (claimed composite) (See Abstract) comprising uniformly distributing fine droplets of a liquid crosslinker solution (claimed at least one particle of a coating material), e.g. by use of a pressurized nozzle, on the surface of superabsorbent base polymer particles (See column 9, lines 36-42). Uniform crosslinker dispersion on the base polymer particles can be **achieved** in a *fluidized* mixture, which *suspends* the base polymer particles in a turbulent gas stream (See column 9, lines 42-45). The crosslinker solution comprises water (claimed hydrophilic association agent), C₂-C₆ diol (claimed hydrophilic association agent) and a crosslinking compound (See column 4, lines 16-20).

Art Unit: 1792

6. Claims 12 and 16 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Eckert et al (US 6239230).

Eckert et al disclose method of preparing a surface crosslinked superabsorbent-containing composite (See Abstract), the method comprising surface treating SAP particles with a solution of an HAA (claimed crosslinker) in a suitable solvent, for example, water, an alcohol, or a glycol (claimed hydrophilic association agent) (See column 14, lines 41-48). The solution of HAA can be applied as a *fine spray* (claimed at least one particle of a coating material) onto the surface of freely tumbling SAP particles (See column 14, lines 45-48). The HAA is distributed evenly on the surfaces of the SAP particles by mixing in **fluidized bed** mixers (See column 14, lines 49-54). The Examiner takes official notice that it is a common knowledge in the art that coating particles with a liquid solution in a fluidized bed comprises all claimed steps (a)- (c). Note that claimed method is also performed in a fluidized bed.

7. Claims 12, 14, and 16 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Dutkiewicz et al (US 6329565).

Dutkiewicz et al disclose method of preparing a surface crosslinked superabsorbent-containing composite, the method comprising delivering cellulose fluff and polyacrylate superabsorbent (SAM) particles through a nozzle located about 10 inches above a forming wire at a velocity of about 150 ft/sec. using **air** to transport the mixture; adding polyacrylic acid solution through two atomizing nozzles and a crosslinking agent Kymene 557 LX through two atomizing nozzles, wherein the polyacrylic acid and Kymene spray nozzles were positioned to obtain a **uniform coating** of polyacrylic acid and Kymene on the cellulose fluff /superabsorbent particulates (See column 25, lines 47-65):

Art Unit: 1792

8. Claims 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chambers et al/Eckert et al in view of Reeves et al (US 6376011).

As to claims 14-15, 18, the cited prior art fails to teach that a heated flowing gas is used.

Eckert et al teach that subsequent or simultaneous **heating** of surface treated SAP particles in e.g. a **fluidized bed** dryer provides (See column 15, lines 19-20, 23), additional polymer crosslinks in the vicinity of the surface of the SAP particles (See column 15, lines 31-34).

Reeves et al teach that a heated air may be used for coating SAP particles in a fluidized bed (See column 10, lines 27-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a heated air for suspending SAP particles in the cited prior art, as taught by Reeves et al.

As to claims 16-17, Reeves et al teach that the coating material may further comprise another compound such as water-soluble polymers (See column 6, lines 6-10), e.g. carboxymethyl cellulose, hydroxyethyl cellulose (claimed cellulosic material) (See column 6, lines 28-29). The use of these water-soluble polymers can desirably increase the mechanical strength of the resulting granular product and makes it easy to handle the water-absorbing agent (See column 6, lines 30-33).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have added water-soluble polymers such as carboxymethyl cellulose or hydroxyethyl cellulose to a coating material of the cited prior art with the expectation of

Art Unit: 1792

providing the desired increased mechanical strength of the resulting granular product, as taught by Reeves et al.

9. Claims 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsubakimoto et al/Dutkiewicz et al/ in view of Reeves et al.

As to claims 15, 18, the cited prior art fails to teach that a heated flowing gas is used.

Reeves et al teach that a heated air may be used for coating SAP particles in a fluidized bed (See column 10, lines 27-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a heated air for suspending SAP particles in the cited prior art, as taught by Reeves et al.

As to claims 16-17, Reeves et al are applied here for the same reasons as above.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have added water-soluble polymers such as carboxymethyl cellulose or hydroxyethyl cellulose to a coating material of the cited prior art with the expectation of providing the desired increased mechanical strength of the resulting granular product, as taught by Reeves et al.

10. Claims 12, and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsubakimoto et al/Chambers et al/Eckert et al/Dutkiewicz et al/ in view of Reeves et al.

The cited prior art do not expressly teach a fluidizing method. Reeves et al teach that a fluidizing process that is substantially identical to that of claimed invention described in the specification as originally filed.

Art Unit: 1792

Consequently, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a fluidizing process of Reeves et al with the expectation of providing the desired surface crosslinked superabsorbent-containing composite since the cited prior art does not limit to particular fluidizing process.

Other limitations are obvious over Reeves et al for the reasons discussed above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is 571-272-1429. The examiner can normally be reached on Monday-Thursday, 9:00AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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